Cultural stressors and the hopelessness model of depressive symptoms in Latino adolescents.

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Abstract:

Depressive symptoms in Latino youth have been related to both culturally-universal and culturally-based stressors. However, few studies have examined the unique contributions of culturally-based stressors above and beyond other types of stressors. Moreover, no past studies with Latinos have examined the role of culturally-based stressors within a hopelessness model of depressive symptoms, a cognitive model with the strongest empirical support in adolescence. The current study examined these issues in a sample of 171 Latino adolescents (7th–10th grades; mean age = 14; 46 % male). The Latino adolescents were primarily Mexican–American (78 %) and born in the United States (60 %). Students completed measures during a school period on their experiences of parent–child conflict, economic stress, discrimination from peers, and acculturative stress as well as depressive symptoms and attributional style. The results indicated that culturally-based stressors (e.g., acculturative stress and discrimination) predicted greater depressive symptoms even when controlling for culturally-universal stressors (e.g., parent–child conflict, economic stress). Moreover, a negative attributional style moderated the relationship between culturally-universal stressors and depressive symptoms, but this was not the case for culturally-based stressors. Culturally-based stressors play an important role in depressive symptoms among Latino youth. These stressors predicted greater symptomatology even when controlling for other types of stressors and a negative attributional style. These findings suggest that there may be other cognitive risk factors associated with culturally-based stressors.

Keywords: latinos | discrimination | depressive symptoms | adolescents | latino youth | depression | hopelessness

Article:
Introduction

There has been a paucity of research examining the applicability of a cognitive vulnerability or hopelessness model of depressive symptoms in Latino adolescents. Testing this model in Latino adolescents is of paramount importance since Latino youth exhibit greater depressive symptoms

than other ethnic groups in the United States (Twenge and Nolen-Hoeksema 2002), and cognitive factors are central in the empirically supported treatment for depressive symptoms. Some initial studies lend support to the applicability of the cognitive vulnerability model in Latino adolescents by documenting a relationship between cognitions and depressive symptoms (e.g., Kennard et al. 2006). However, no past study with Latinos has examined whether a negative attributional style moderates the relationship between stressors and depressive symptoms as suggested by the hopelessness theory of depressive symptoms (Hankin and Abramson 2001). Moreover, Latino adolescents face multiple types of stressors that include both those experienced by youth of other cultures (i.e., culturally-universal stressors) and stressors linked to their ethnic minority status (i.e., culturally-based stressors) (e.g., Garcia-Coll et al. 1996). While the distinction between these types of stressors has been previously articulated in the literature, few studies have examined the unique contributions that each of these types of stressors make in the prediction of depressive symptoms in Latino youth and whether a cognitive vulnerability model applies to both of these types of stressors. The current article addresses these limitations in the literature by examining the unique contributions of culturally-based stressors in the prediction of depressive symptoms in Latino youth and whether a negative attributional style moderates their relationship with greater depressive symptoms.

Stressors

Most stressors linked to depressive symptoms in Latino youth can be considered culturally-universal, but stressors related to family and poverty may be particularly salient for Latino youth. Given that Latinos highly value family cohesiveness, it is not surprising that family based stressors such as parent–child conflict have been associated with greater depressive and internalizing symptoms in Latino youth (e.g., Kuhlberg et al. 2010). However, parent–child conflict predicts depressive symptoms in samples of youth from multiple ethnic groups, suggesting that this is a universal stressor for many youth (e.g., Marmorstein and Iacono 2004). Similarly, low socioeconomic status also has been associated with depressive symptoms in both Latino and other ethnic youth (e.g., Corona et al. 2005; Umaña-Taylor et al. 2011). Because Latino families are more likely to live in poverty than those of other ethnic groups (US Census 2010), economic stress may be a particularly important stressor for these youth, but not necessarily related to culture or their status as a minority group member. Importantly, few studies actually have examined stress associated with poverty as a predictor of depressive symptoms in Latino youth (e.g., Umaña-Taylor et al. 2011). The measurement of economic stress is essential as it provides a more accurate understanding of how financial status impacts depressive symptoms.

In contrast to stressors that may be experienced by all ethnic groups, some stressors are specific to ethnic minority and Latino youth. More specifically, acculturative stress and discrimination have both been implicated in the development of depressive symptoms. Acculturative stress has been conceptualized as the stress that results from the interactions between different cultural groups (Myers and Rodriguez 2002). The original research examining acculturative stress focused on the stress experienced as youth attempted to assimilate to the US majority culture (e.g., Hovey and King 1996). In these models, stressors included such things as prejudice, difficulty speaking English, and experiences of discrimination. However, later research also has included the pressure Latino youth may feel to maintain the cultural values and language

associated with their culture of origin (e.g. Romero et al. 2007). As Latino youth navigate different cultural contexts, they need to balance the incorporation of new cultural values and attitudes with the maintenance of those values associated with their cultures of origin. Furthermore, although acculturative stress was at first thought to apply only to immigrant Latino youth, acculturative stress has been documented in second and third generation youth as well (Cervantes et al. 1991). Conceptually, the stress that results from having to balance different cultural contexts, experiences with discrimination and prejudice, and family conflict due to differential acculturation leads to greater depressive symptoms as the adolescent's coping skills are overwhelmed by these experiences. In samples with Latino youth, acculturative stress predicts greater depressive symptoms concurrently and longitudinally (e.g., Hovey and King 1996; Smokowski et al. 2009; Umaña-Taylor et al. 2011). However, most studies that have examined acculturative stress in predicting depressive symptoms have not included other types of stressors in their models so it is unclear whether acculturative stress uniquely predicts depressive symptoms (e.g., Romero et al. 2007).

Although conceptualizations and measures of acculturative stress include experiences of discrimination, a separate literature has examined the specific role of discrimination in predicting depressive symptoms in Latino youth. Theoretically, discrimination from peers is hypothesized to contribute to the development of a negative self-evaluation that leads to depressive symptoms (Delgado et al. 2011). Importantly, discrimination may become more salient to adolescents as they begin to develop their identity and turn to their peers for information relevant to their competence and acceptance. Overall, experiences of discrimination also have been linked to greater depressive symptoms in Latino adolescents concurrently and longitudinally (e.g., Delgado et al. 2011; Greene et al. 2006; Szalacha et al. 2003).

Although research documents that all of these stressors are linked with depressive symptoms in Latino youth, to our knowledge no previous studies have documented the differential effect of these stressors. It is unclear how much unique variance is accounted for by each type of stressor. Moreover, given that past studies have used acculturative stress measures that included discrimination and have not distinguished between the two, it remains uncertain whether acculturative stress and discrimination are unique predictors of depressive symptoms.
Cognitive Vulnerability

The attributional hopelessness model of depressive symptoms is the cognitive model that has the largest research support in adolescence (Jacobs et al. 2008). Specifically, the cognitive vulnerability-transactional stress model proposes that environmental stressors interact with cognitive factors to place youth at risk for depressive symptoms. The model posits that depressive symptoms result from individuals' attributing stress-provoking events to global and stable factors (Hankin and Abramson 2001). Newer studies also have included internal attributions as contributing to the emergence of depressive symptoms (e.g., Bohon et al. 2008). Although this model has been widely studied with ethnically diverse samples, few studies have specifically examined the applicability of this model in Latino adolescent samples. However, initial results examining cognitive vulnerabilities more generally provide support for this model with Latino youth. First, research has established that cognitive biases (e.g., hopelessness, negative triad) are evident in depressed Latino adolescents (Joiner et al. 2001; Stein et al. 2010). Second, cognitive vulnerabilities (hopelessness, cognitive errors, and low self-efficacy) predict

greater depressive symptoms longitudinally in Latino youth (Kennard et al. 2006). Yet, there has been no research with Latino adolescents that actually tests the moderational role of a cognitive vulnerability, especially a negative attributional style.

A more recent study did test whether a negative attributional style interacted with acculturative stress to predict greater negative affect in a sample of ethnic minority college students (27 % Latinos) (Paukert et al. 2006). Although acculturative stress was associated with a more negative attributional style, a negative attributional style did not moderate the relationship between acculturative stress and negative affect. This article is an important first step in testing the hopelessness model of depressive symptoms with Latinos, but it is limited in that it did not examine depressive symptoms as the outcome. Further, the sample included youth of multiple ethnicities, leaving open the possibility that the model might fit with one cultural group but not another. Taken together, these findings point to the fact that an attributional hopelessness model may be applicable for Latino youth, but further research is needed to draw any conclusions about the moderational role of cognitive vulnerabilities.

Finally, it is important to note that a majority of studies examining the hopelessness model of depressive symptoms interacting with stress has used broad measures of stressors that typically included tallies of multiple types of stressors. Few studies have distinguished whether the hopelessness model applies across different types of stressors. Those that have tested the model with specific types of stressors have focused mostly on interpersonal or peer stressors (see Jacobs et al. 2008 for a review). These studies have concluded that interpersonal stressors interact with attributional style in predicting depressive symptoms (e.g., Gibb and Alloy 2006). Importantly, the examination of these interpersonal stressors has been used to elucidate sub-group differences in depressive symptoms. These models have been used to explain the increased risk for depressive symptoms experienced by girls compared to boys in adolescence (see Oldehinkel and Bouma 2011 for a review). Thus, understanding the role of specific stressors that interact with a cognitive vulnerability may elucidate why groups demonstrate differential risk for depressive symptoms. Given that Latino youth are at high risk for depressive symptoms, understanding how stressors salient to this group interact with cognitive vulnerabilities is imperative.

Current Study

The current study examines the relationship between culturally-universal and culturally-based stressors and depressive symptoms in Latino youth. This study extends past research by examining both culturally-universal stressors (e.g., parent child conflict, economic stress) and culturally-based stressors (e.g., acculturative stress, discrimination). It was hypothesized that culturally-based stressors would be associated with greater depressive symptoms even when accounting for universal stressors. Further, this study tests the applicability of the cognitive vulnerability model of depressive symptoms with Latinos. It was hypothesized that a negative attributional style would exacerbate the effects of both cultural and universal stressors.

Method

Procedure

We recruited Latino youth in all 7th, 8th, 9th, and 10th grade classrooms from three schools in North Carolina (two middle schools and one high school). In the year of the study, 34 % of the students in the schools were Latino and this distribution was roughly equal across the three schools. Recruitment occurred in three ways. First, parents and families were approached at an open-house event at the high school. Second, the schools each provided the research team with the phone numbers of all the Latino students at their respective schools. The research team called each family to obtain consent. The phone call consents were mainly done in Spanish. Third, along with the phone call recruitment, all of the Latino parents received a bilingual recruitment letter and consent form that was sent home with their child from school and returned to the main office. The research team collected the forms from the schools.

There were 442 Latino students total among the three schools. Of the 442 students' families, 425 were called on the phone while 17 families were approached at the open house. Of the 17 students who were consented at the open house, 14 students eventually participated in the study. Of the parents who were contacted over the phone, 221 parents consented to have their child participant (79 % of those reached; 50 % of total) and 40 parents declined to have their child participate (14 % of those reached; 9 % of total). Seven parents consented their child through the letter that was sent home through the school. The researchers were unable to contact 164 families (37 % of total) due to disconnected numbers and inability to reach the parent. One student withdrew from the study. In total, 191 students (68 % of those reached; 43 % of total) assented and participated in the current study.

All survey administration was completed in the participating school's cafeteria in the fall of 2010. The students were given a child assent form. The participants had the option to have an English or Spanish version of the survey. One student chose to take the survey in Spanish. Measures not available in Spanish were translated and back translated, and then the research team resolved discrepancies jointly. The team also encouraged participants to ask for assistance at any point during the survey and checked each questionnaire to ensure the quality of the data.

Participants

The sample consisted of 7th, 8th, 9th, and 10th graders (n = 190) with a mean age of 14.02 years. The sample consisted of 52.9 % females. The adolescents were primarily Mexican origin (78 %), the remainder of the sample were Latino mixed (parents from different countries of origin; 8 %), Nicaraguan (2 %), Dominican (2 %) and Salvadorian (2 %) backgrounds. Other individuals identified being from Guatemalan, Colombian, Costa Rican and Cuban backgrounds. Although the sample is majority Mexican American, Latino will be used for parsimony.

There were missing data for 19 adolescents on some of the predictor variables. These adolescents did not differ significantly from those with complete data on depressive symptoms so they were not included in the current sample (t = 1.12, p = NS). One adolescent's survey was determined to be invalid due to inconsistent responses throughout the survey. Thus, the final sample included 171 adolescents.

Measures

Depressive Symptoms

The Mood and Feelings Questionnaire (Angold et al. 1987) was used to assess students' depressive symptoms. The 33-item Likert-type scale measured the extent to which students experienced depressive symptoms in the past two weeks. The measure included items such as "I didn't enjoy anything at all" and "I felt I was no good anymore," and students reported whether the statement was not true (0), sometimes true (1) or mostly true (2). This measure has demonstrated adequate psychometric properties (Daviss et al. 2006) and was reliable in this sample ($\alpha = .94$). The items were averaged to compute a mean score to represent total depressive symptoms. In order to examine differences based on symptom severity, a total sum score was computed and a cut-off of 27 was used to indicate clinically elevated symptoms as this was found to be sensitive in a clinical sample (Wood et al. 1995). In addition, a cut-off at the median was used to indicate sub-clinical symptoms (a cut-off of 6). Three groups were created based on these cut-offs: those with no/minimal symptoms, sub-clinical symptoms, and clinically elevated symptoms.

Parent–Child Conflict

Three items from the NRI-Relationship Qualities Version (NRI-RQV) (Furman and Buhrmester 1985) measuring parent–child conflict were used. Participants rated the frequency of experiencing conflict from (1) never to (5) always. Sample items include how often "Do you and this person argue with each other?" and "Do you and this person get mad at or get in fights with each other?" Adolescents reported on both their mothers and fathers, but due to missing data on fathers, reports of conflict with mothers were used for the entire sample except for three participants who only reported on fathers. The scale has shown adequate psychometric properties (Furman & Buhrmester, 1985) and was reliable in this sample for the items on mothers ($\alpha = .77$) and fathers ($\alpha = .80$). The items were averaged to represent conflict.

Economic Stress

Three items from the Current Economic Stress Scale assessed adolescents' perceived economic stress (Sheck 2005). Participants rated the frequency of experiencing stress from (1) never or no financial difficulty to (4) always or much financial difficulty. Sample items include "In the past 6 months, has your family had inadequate money to cope with the family expenses?" The scale has shown adequate psychometric properties (Sheck 2005) and was reliable in this sample ($\alpha = .78$). An average score was used in the analyses.

Discrimination

A 19-item discrimination measure developed by Way (1997) was used to assess peer discrimination. The measure was based on in-depth, semistructured interviews with over 150 Black, Latino and Asian American adolescents (Rosenbloom and Way 2004). Adolescents reported whether they experienced a specific discrimination event on a five-point Likert scale ranging from 1 (never) to 5 (all the time). Sample items include, "How often do you feel that other students in school make fun of you because of your race or ethnicity?" and "How often do you feel that other students in school expect that you will get bad grades because of your race or ethnicity?" As in previous research, this scale was dichotomized to represent whether the adolescent experienced the specific discrimination due to low level of endorsement at the higher frequency (Greene et al. 2006). The scale has demonstrated adequate psychometric properties

(Greene et al. 2007) and had adequate reliability in the current sample (α = .96). The items were summed to represent total discrimination.

Acculturative Stress

The 20-item Bicultural Stress Scale (Romero and Roberts 2003) assessed experiences of acculturative stress. The scale includes experiences of conflict stemming from differential acculturation, language difficulties, and family obligation. The response scale ranges from not having experienced the stressor (1) to very stressful (5). The scale has shown adequate psychometric properties (Romero and Roberts 2003). Two items were dropped from the measure after a factor analysis revealed that they did not correlate with the remaining measure (the two items pertained to pressures to learn and speak Spanish). Additionally, items assessing specific experiences of discrimination were not included to differentiate between acculturative stress and discrimination (three items). As in past studies, the responses were dichotomized to represent whether an adolescent had experienced a stressor or not (Romero and Roberts 2003). Reliability in this sample was adequate (α = .87). The items were then summed to represent total acculturative stress.

Attributional Style

The Adolescent Cognitive Style Questionnaire (ACSQ) was used to assess adolescents' cognitive errors. The ACSQ consists of eight hypothetical negative event scenarios (4 interpersonal and 4 achievement) relevant to adolescents. Adolescents are presented with a hypothetical negative event and asked to write down one cause for the event. Participants then rate the degree to which the cause of the hypothetical negative event is (a) internal, (b) stable, and (c) global (negative inferences for causal attributions). Participants then rate the likelihood that further negative consequences will result from the negative event and the degree to which the occurrence of the event signifies that the person's self is flawed. Scores on the ACSQ scale ranges from 1 to 7. Internal consistency for the overall ACSQ scale is .95 with a sample of 219 adolescents in 9th through 12th grade, the majority of whom is White (Hankin and Abramson 2002). Reliability in this sample was adequate (α = .95). An average score was used.

Results

Preliminary analyses examining potential covariates found that age and gender were related to both the independent and dependent variables so they were retained as covariates, but nativity status (foreign or native born) was not significantly related to any of the variables so it was not included in the analyses. Means and correlations are presented in Table 1.

Table 1
Correlations and descriptive statistics

Variables	1	2	3	4	5	6
1. Depressive sx	1.00					
2. Cognitive vuln	**.37**	1.00				
3. Parent–child conflict	**.26**	**.37**	1.00			

Variables	1	2	3	4	5	6
4. Economic stress	**.25**	**.28**	.14	1.00		
5. Acculturative stress	**.22**	**.36**	**.23**	**.24**	1.00	
6. Discrimination	**.35**	**.44**	.18	**.29**	**.52**	1.00
Mean	.303	2.57	2.39	2.04	7.07	5.94
SD	.32	.97	.80	.72	4.0	6.1

Correlations in bold are statistically significant at $p < .05$

n terms of acculturative stress, about 75 % of the sample reported worrying about immigration, not being able to do things due to family obligations, and translating for parents. In addition, more than half the sample reported having to explain US customs to their parents, feeling like it would be hard to get ahead due to their ethnicity, and not always understanding people of different ethnic backgrounds. In terms of experiences of discrimination from their peers, a smaller portion of the sample endorsed these items (from 17 to 44 %). Items endorsed by more than 36 % of the sample included: treated with less respect, treated as if they were not as good, called names, treated as if they were a trouble maker, and expected to get bad grades. In terms of economic stress, the majority of the sample (48 %) reported some financial difficulties with 20 % reporting that their family experienced considerable financial difficulties. Finally, the mean level of parent–child conflict was minimal. Only 18 % of the sample reported often or always having quarrels with their parents.

In terms of depressive symptoms, the sample did demonstrate significant depressive symptoms with a mean sum score of 9.66 (SD = 10.2). When using the cut-offs, 12 % of the sample demonstrated clinically elevated symptoms and 40 % were classified as demonstrating sub-clinical symptoms. Those with clinical symptoms did not differ by gender or nativity status. A MANOVA was estimated with the grouping variable as a predictor and the stressor variables as outcome variables. There was a significant main effect of group on stress, Wilks' lamba = .80, $F_{(8, 163)} = 4.93$, $p < .001$. Overall, the clinically elevated group differed from the other two groups significantly on all four stressors (see Table 2).

Table 2
Mean differences in stressor variables across three depressive symptoms groups

	Acculturative stress	Discrimination	Parental conflict	Economic stress
No/minimal sx	6.33$_a$	4.75$_a$	2.21$_a$	1.92$_a$
Sub-threshold sx	7.14$_a$	5.53$_a$	2.49	2.02$_a$
Clinical sx	9.80$_b$	12.2$_b$	2.80$_b$	2.55$_b$

Subscripts that differ are statistically significant at $p < .05$

A two-step hierarchical regression model was estimated to test whether culturally-based stressors predicted depressive symptoms when accounting for culturally-universal stressors (see Table 3). The first step included the covariates and the culturally-universal predictors (economic stress and parent–child conflict). The first step accounted for 11 % of the variance in depressive symptoms. Both parent–child conflict and economic stress were significant predictors and accounted for 5 % of the variance each. In the second step, both discrimination and acculturative stress were entered in the model. The next step accounted for an additional 7 % of the variance, which was significant (change in F = 7.11, p = .001). In this step, only discrimination was a significant predictor and accounted for 6 % of the variance in depressive symptoms. Parent–child conflict was still a significant predictor, but economic stress was only a trend-level predictor.

Table 3
Results of regression analyses predicting depressive symptoms

	Step 1		Step 2		Step 3		Step 4	
	β	sr²(%)	β	sr²(%)	β	sr²(%)	β	sr²(%)
Step 1 predictors								
Age	0.047	0	−0.004	0	0.043	0	0.041	0
Gender	−0.037	0	−0.082	1	−0.095	1	−0.093	1
Parent–Child conflict	.218**	5	.170*	3	0.094	1	0.093	1
Economic stress	.212**	5	0.127†	2	0.102	1	0.100	1
	$R^2 = .116$							
Step 2 predictors								
Discrimination			.290**	6	0.194*	3	0.192*	3
Acculturative stress			0.005	0	0.035	0	0.036	0
			Change in $R^2 = .071$					
Step 3 predictors								
Attributional style					0.193*	3	0.191*	3
AS × conflict					0.108	1	0.107	1
AS × economic					0.223**	6	0.220**	5
					Change in $R^2 = .087$			

	Step 1		Step 2		Step 3		Step 4	
	β	sr²(%)	β	sr²(%)	β	sr²(%)	β	sr²(%)
Step 4 predictors								
AS × discrimination							0.022	0
AS × acculturative stress							−0.032	0
							Change in R^2 = .001	

[†] $p < .10$; * $p < .05$; ** $p < .01$

Two additional steps were estimated to test whether attributional style moderated the relationship between the stressors and depressive symptoms. Per Aiken and West (1991), all predictor variables were centered and then product terms were created for each stressor and attributional style. The third step included the product terms for only the culturally-universal predictors. The inclusion of these interaction terms was also significant (change in F = 6.41, p < .001), and the model accounted for an additional 8 % of the variance. However, only the interaction term for economic stressors was significant. To further probe this interaction effect, we used the online calculation utility created by Preacher et al. (2006). Simple slope values were calculated by treating attributional style as the moderator variable and quantifying a more negative attributional style as one standard deviation above the mean, a neutral attributional style as at the mean, and a more positive attributional style as one standard deviation below the mean. Only the simple slope for a more negative attributional style was significant (B = .148, p = .01) (see Fig. 1). The final step included the interaction terms for both discrimination and acculturative stress. However, this final step was not statistically significant and did not account for any additional variance in the model. Multicollinearity diagnostics indicated no significant problems with multicollinearity in all the models.
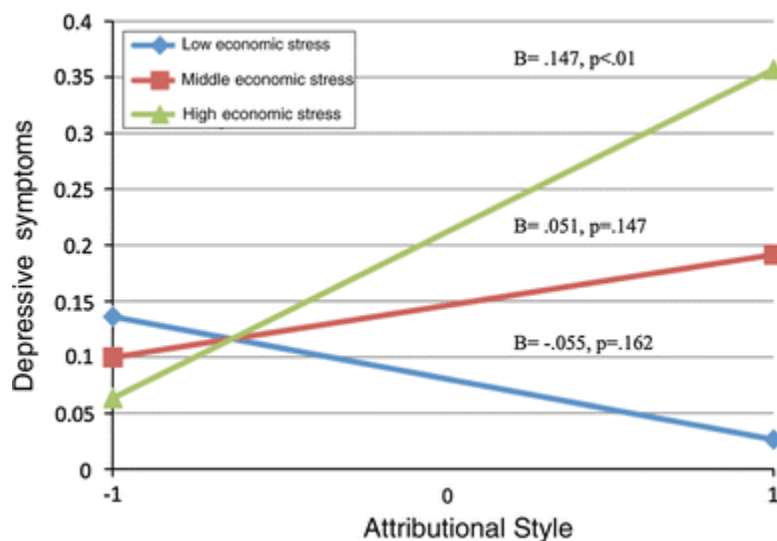

Fig. 1
Simple slopes plot for the moderation of attributional style and economic stress

Discussion

Latino youth experience high levels of depressive symptoms (Twenge and Nolen-Hoeksema 2002), yet few studies have examined the applicability of a hopelessness model of depressive symptoms in Latino youth. In some initial promising studies, cognitive vulnerabilities have been found to predict depressive symptoms in Latino youth (e.g., Stein et al. 2010), but no past studies actually have examined whether a negative attributional style serves as a vulnerability when Latino youth experience stress. Furthermore, the types of stressors that are most salient in the prediction of depressive symptoms in Latino youth remains unclear. The majority of studies has focused on culturally-universal stressors such as family conflict and economic stress documenting their detrimental effect (e.g., Zayas et al. 2010), and a smaller but significant literature has examined the role of culturally-based stressors such as discrimination and acculturative stress (e.g., Romero et al. 2007). However, the differential prediction of these stressors in Latino youth has not been adequately explored.

The current study tested two important questions concerning factors associated with depressive symptoms in Latino youth in immigrant families. First, culturally-based stressors are related to depressive symptoms even when controlling for other types of more universal stressors. However, our results suggest that discrimination and not acculturative stress plays a more central role in depressive symptoms for Latino youth. Second, we found partial support for the hopelessness model of depressive symptoms such that attributional style moderated the relationship between economic stress and depressive symptoms, but attributional style did not moderate the relationship between culturally-based stressors and depressive symptoms.

Discrimination and Acculturative Stress

This is the first study to examine the unique effects of acculturative stress and discrimination on depressive symptoms in Latino youth. Our results suggest that the relationship between acculturative stress and depressive symptoms reported in past literature may be driven by experiences of discrimination that are included in the measures of acculturative stress. In fact, throughout all the models, acculturative stress did not account for any unique variability in depressive symptoms while discrimination consistently accounted for a small portion of the variability in all the models (3–6 %). There are a few potential explanations for these results. The first may be that the experiences captured in acculturative stress measures may not be experienced as very stressful. To examine this hypothesis, post hoc analyses were conducted to examine how stressful the items on the acculturative stress measure were rated by the students who endorsed the item as having occurred to them. Every item except one had a mean rating of three indicating that overall these items were rated as "a little bit stressful." The only item that had a mean stressful rating of four ("quite a bit stressful") was worries about problems with immigration. Although we cannot compare these results to the stressfulness of the discrimination items due the measure, it does appear that there is some support to the notion that the experiences captured in the acculturative stress measure are not viewed as particularly stressful.

A second potential explanation may be that the effects of peer discrimination are particularly pernicious in adolescence as youth turn to their peers for acceptance and support. Thus, negative peer experiences in general may be more stressful and salient for adolescents when compared to stressors that do not involve peers. This notion is supported by the literature documenting the negative effects of peer stress on youth depressive symptoms (e.g., Rudolph and Hammen 1999). For Latino and minority youth, peer discrimination may be a specific type of peer stressor that

has larger implications to the youth's identity formation, self-esteem, and views of the future, all of which synergistically serve to influence the development of depressive symptoms. Through discrimination, youth may feel alienated from the larger majority culture and feel hopeless about the ability to succeed in a world that seems biased against their group. Moreover, depressive symptoms also may arise when Latino youth have not developed the necessary coping skills to deal specifically with discrimination due to their family's generational status. In fact, all of the Latino students in the sample were either immigrants themselves or children of immigrants, and perhaps as new arrivals into this culture, these families have not developed the specific skills needed to combat the deleterious effects of discrimination that are found in marginalized groups that have a longer history in the US (e.g., African Americans). In support of this hypothesis, research on ethnic socialization and specifically on preparation for bias finds that Latino mothers tend to use less ethnic socialization and preparation for bias when compared to Black mothers (Hughes et al. 2009). Additionally, families may perceive acculturative stress as short-term while they adjust to a new country, but discrimination may be perceived as pervasive and thus making it more difficult to combat.

Attributional Style

Economic stress also appeared to play an important role in the experience of depressive symptoms in these Latino youth. However, this was only the case for adolescents who demonstrated a negative attributional style. It is important to note that this study did not measure stress and depressive symptoms longitudinally and thus a temporal precedent was not established. Nevertheless, these results lend support to the applicability of the hopelessness theory of depressive symptoms for culturally-universal stressors. A more negative attributional style may lead economically stressed youth to feel as if their economic circumstances impact all aspects of their lives and limit their possibilities in the future. Notably, parent–child conflict did not predict depressive symptoms once attributional style was entered into the model. This finding suggests that attributional style may mediate the relationship between parent–child conflict and depressive symptoms in Latino youth. This is consistent with the notion that personal experiences may shape attributional style (Gibb and Coles 2005), and for Latinos who highly value the family and family cohesiveness, negative familial exchanges may be more likely to shape an adolescent's attributional style. Further research should examine this possibility.

However, the negative effects of discrimination on depressive symptoms were not moderated by the youth's attributional style. This suggests that there may be different mechanisms that explain why discrimination is associated with depressive symptoms in Latino youth. For example, some past research has suggested that youth with a positive ethnic identity are shielded from the negative effects of discrimination (Shelton et al. 2005). Theoretically, it is hypothesized that a positive ethnic identity serves to provide youth with a sense of support and connectedness to cope with discriminatory experiences (Shelton et al. 2005). However, although many studies have documented this protective effect, others do not support this mechanism (Huynh and Fuligni 2010). Thus, the role of ethnic identity in the development of depressive symptoms when youth face discrimination is not well-understood. Other research has focused on the protective effect of other cultural values, such as familism (e.g., Umaña-Taylor et al. 2011). It is hypothesized that, by maintaining familial cultural values, connections to family, and a strong sense of identity, youth can draw upon positive aspects of their group membership when confronted with discrimination. However, this has not been borne out by the research as familism

was only protective against depressive symptoms when youth experienced low-levels of discrimination (Umaña-Taylor et al. 2011).

In addition, although a negative attributional style was not a moderator, other types of cognitive biases or perceptions may be more important in linking discrimination and depressive symptoms. For example, recent research examining race-rejection sensitivity suggests that some youth may be more likely to expect and react to race-based rejection or discrimination (Mendoza-Denton et al. 2008), and this sensitivity may serve as a vulnerability factor. Although this appears to be a promising lead, the one study that has examined its moderational role in Latino youth did not support the hypothesis that youth with greater race-rejection sensitivity were more vulnerable to the negative effects of discrimination (Huynh and Fuligni 2010). It is important to note that the measure of attributional style does not specifically address situations of peer discrimination, and perhaps a measure that includes items that tap into discrimination experiences may be necessary to understand the cognitive and attributional vulnerabilities associated with depressive symptoms. Given that discrimination may shape how a person feels valued by members of society, making more global and stable attributions to discriminatory acts may be especially problematic. However, it is possible that some youth show a selected attributional bias for discriminatory acts but not for other experiences. This possibility needs to be further explored. Additionally, gender also may serve as a third moderator in the relationship between discrimination, attributional style, and depressive symptoms. Girls with a negative attributional style may demonstrate a heightened vulnerability to interpersonal stressors such as peer discrimination, leading to greater depressive symptoms compared to boys. This idea would be consistent with past research suggesting that girls demonstrate a greater risk when confronted with interpersonal stress (Gibb and Alloy 2006). A next step in this line of research would be to examine possible differences by gender.

Overall, the cognitive and cultural vulnerabilities that place youth at risk for depressive symptoms when they experience discrimination have yet to be clarified. Future research should continue to examine the risk factors that create vulnerabilities in youth as well as the specific mediating mechanisms that link peer discrimination to depressive symptoms. Measures of cognitive biases may need to use prompts with specific discriminatory experiences to assess the role of attributional style in the development of depressive symptoms. Furthermore, our study was cross-sectional so the current results could also be interpreted that depressed Latino youth are more likely to perceive discrimination. Although this is a possibility, past research documents that experiences of discrimination precede increases in depressive symptoms (Berkel et al. 2010). Future work should examine the relationship of discrimination and attributional style longitudinally. In fact, past research suggests that victimization may impact the development of a more negative attributional style (Gibb et al. 2001), and thus the relationship between discrimination and attributional style may be mediational and not moderational. Limitations of the Present Study

While this study has some significant strengths, there are limitations that need to be taken into account. The lack of longitudinal data was the primary limitation of this study, as mentioned previously. However, given the novelty of the research question and its important application to ethnic minority youth, this study is a first step testing the hopelessness model of depressive symptoms in Latino youth. In addition, the lack of a moderation effect may be due to a small

sample size and future research should replicate this study in a larger sample. Furthermore, the analyses were conducted using only self-report data and future studies should include stress data from other reporters (e.g., parents). In addition, the study included youth from 7th to 10th grades. It may be that the role of attributional biases are more salient for older youth, but given the small sample size, the study was underpowered to test a 3-way interaction. Finally, the findings of this study generalize to Latino youth in immigrant families, but further research needs to continue examining these questions in 3rd and 4th generation youth as the risk factors associated with depressive symptoms may change with generational status. Moreover, we could not examine differences in Latino sub-ethnicities given our small sample sizes, but future research should test whether these relationships exist across different groups.

Conclusions

This study adds to past research and theory that argues that a cognitive behavioral orientation is appropriate to treat depressive symptoms in Latino youth (Rossello et al. 2008). Clinicians should be especially mindful of how economic stress is perceived and interpreted by depressed youth. However, the findings suggest that discrimination may operate through different mechanisms as it impacts depressive symptoms. Thus, schools should target reducing peer discrimination by developing interventions aimed at improving student relationships. The sample for our current study attends schools where Latinos constitute a substantial minority (about one-third of the student body). This implies two things. First, that Latino students have a large student body to rely on for support, yet the impact of discrimination on depressive symptoms was still significant. Second, that peer discrimination occurs in schools where minorities constitute a large portion of students. Therefore, interventions aimed at reducing discrimination may be an important way of combating depressive symptoms.

In summary, this study contributes to our understanding of culturally-based stressors in relation to depressive symptoms in Latino youth. Our results suggest that culturally-based stressors uniquely contribute to depressive symptoms. In addition, it appears that experiences of discrimination may explain why acculturative stress has been associated with depressive symptoms in past research. Although we found support for aspects of the hopelessness model of depressive symptoms with regard to experiences of economic stress, attributional style did not serve as vulnerability for depressive symptoms in the face of discrimination. Future research should continue to examine what are the specific mechanisms and risk factors that are involved in the development of depressive symptoms when Latino youth experience discrimination.

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